

### **Listing of Claims**

The following listing of claims replaces all prior versions and listings of claims in the Application.

18. (Canceled)
19. (Currently Amended) A prosthetic intervertebral disc comprising:  
a disc body, having a superior first surface that is substantially comprised of a single articulating surface and an inferior a second surface as a base adapted for fixation to a first vertebral bone surface, wherein the single articulating surface is a hyperbolic paraboloid, wherein a solely convex reference curve is formed when the single articulating surface is intersected with a midsagittal plane, and wherein a concave reference curves are curve is formed when the single articulating surface is intersected with a second plane planes orthogonal to the midsagittal plane, wherein the ends of the concave reference curves extend to boundaries of the single articulating surface, and wherein the single articulating surface is fixed relative to the inferior second surface.
20. (Canceled)
21. (Currently Amended) The prosthetic disc of claim 19, wherein the first superior surface is a saddle surface.
22. (Currently Amended) The prosthetic disc of claim 19, wherein the first articulating surface is a surface with a hyperbolic paraboloid shape negative curvature.
23. (Currently Amended) The prosthetic disc of claim 19, wherein the second inferior surface is substantially planar.
24. (Currently Amended) The prosthetic disc of claim 19, wherein the second inferior surface is a separate component manufactured separately.
25. (Currently Amended) The prosthetic disc of claim 19, wherein the second inferior surface has features for bone ingrowth.
26. (Currently Amended) The prosthetic disc of claim 19, wherein the second inferior surface is made of a porous material.
27. (Currently Amended) The prosthetic disc of claim 19, wherein the second inferior surface is provided with a surface treatment.

28. (Currently Amended) The prosthetic disc of claim 19, wherein the first superior surface is shaped to be mated to a lower surface of a vertebral positioned above the first superior surface.
29. (Currently Amended) The prosthetic disc of claim 19, wherein the first superior surface is shaped to be mated to and articulate with a second artificial body positioned above the first superior surface.
30. (Previously Presented) The prosthetic disc of claim 19, wherein the first superior surface is adapted for articulation with a vertebral body.
31. (Currently Amended) An artificial intervertebral disc comprising:
  - a disc body having a superior articulating surface and an inferior surface adapted for fixation to vertebral bone, wherein the superior articulating surface is substantially comprised of an articulating surface has a single hyperbolic paraboloid shape, wherein a convex reference curve is formed when the superior articulating surface is intersected with a midsagittal plane, wherein a concave reference curve is formed when the superior articulating surface is intersected with a second plane orthogonal to the midsagittal plane and central to the disc body, wherein the concave reference curve extends from a first end of the articulating surface to a second end of the articulating surface and, wherein the superior articulating surface is fixed relative to the inferior surface.
32. (Currently Amended) The artificial intervertebral disc of claim 31, wherein the superior articulating surface is adapted for articulation with a second body.
33. (Withdrawn) The artificial intervertebral disc of claim 32, wherein second body is a vertebral body.
34. (Previously Presented) The artificial intervertebral disc of claim 32, wherein the second body is an artificial disc body having an inferior articulating surface and a superior surface adapted for fixation to bone, wherein the inferior articulating surface has a hyperbolic paraboloid shape.
35. (Currently Amended) The artificial intervertebral disc of claim 32, wherein the articulating surface is a hyperbolic paraboloid shape saddle surface.
36. (Currently Amended) The artificial disc of claim 34, wherein the inferior articulating surface of the second body is reciprocally shaped with respect to the superior articulating surface of the disc body.

37. (Withdrawn; Currently Amended) A method of providing a prosthetic intervertebral disc comprising the steps of:

removing a portion of an intervertebral disc, thereby creating an intervertebral disc space; and

placing a prosthetic disc substantially within said intervertebral disc space, wherein the prosthetic disc consists essentially of:

a disc body, having a superior surface this is substantially comprised of a single articulating surface and a second an inferior surface as a base adapted for fixation to a first vertebral bone surface, wherein the single articulating surface has a hyperbolic paraboloid shape, wherein a convex reference curve is formed when the single articulating surface is intersected with a midsagittal plane, and wherein a concave reference curves are curve is formed when the single articulating surface is intersected with a second plane planes orthogonal to the midsagittal plane, wherein the ends of the concave reference curves extend to boundaries of the single articulating surface, and wherein the single articulating surface is fixed relative to the inferior second surface.

38. (Withdrawn; Previously Presented) The method of claim 37, wherein placing includes mating the disc body to a surface of a vertebra.

39. (Withdrawn; Previously Presented) The method of claim 37, wherein the prosthetic disc is shaped to be mated to a second body upon placing within the intervertebral disc space.

40. (Withdrawn; Previously Presented) The method of claim 37, wherein the prosthetic disc is adapted for articulation with a vertebral body.

41. (Withdrawn; Previously Presented) The method of claim 37, wherein placing includes mating the prosthetic disc to a surface of a second artificial body.

42. (Currently Amended) An artificial intervertebral disc suitable for placement between adjacent vertebra comprising:

a disc body having a superior articulating surface and an inferior surface adapted for fixation to vertebral bone, wherein the superior articulating surface includes an articulating surface, wherein boundaries of the articulating surface are proximate to boundaries of the superior surface has a single shape characterized as a hyperbelic paraboloid, wherein a-convex reference curves are curve is formed when the articulating surface is intersected with sagittal planes a-midsagittal plane, wherein a concave reference curves are curve is formed when the articulating surface is intersected with a second plane planes orthogonal to the midsagittal a sagittal plane, wherein the superior articulating surface is fixed relative to the inferior surface.